

REFRIGERATION SYSTEM WITH MODULATED CONDENSING LOOPS

ABSTRACT

A refrigeration system having a main refrigeration circuit having a condensing stage, wherein a first refrigerant in a high pressure gas state is condensed at least partially to a liquid state. The condensing stage has a pair of stand-alone condensing stage closed loops in heat exchange relation with the main refrigeration circuit. The stand-alone condensing stage closed loops are parallel one to another and each comprise a second refrigerant circulating between at least a heat absorption stage, wherein the second refrigerant absorbs heat from the first refrigerant in the main refrigeration circuit so as to condense the first refrigerant to the liquid state, and a heat release stage, wherein the second refrigerant releases the absorbed heat. The condensing stage has modulating valves for selectively and quantitatively modulating the temperature of said first refrigerant and compressor head pressure.

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